

AN ANNOTATED LIST OF THE LEPIDOPTERA OF SANTA CATALINA ISLAND, CALIFORNIA

Part II. SPHINGIDAE AND ARCTIIDAE

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Since the appearance of the first part of this paper (Bull. So. Calif. Acad. Sci., XXXV, December, 1936) Dr. J. McDunnough's Check List of the Lepidoptera of Canada and the United States has been published and the nomenclature of that list is used in preference to the Barnes and McDunnough list as originally planned.

Fourteen species and one new form are included in the present paper. The list will be continued in a future paper.

The absence or rarity of many moths on Catalina Island is difficult to explain. The strong winged White-lined Sphinx, *Celerio lineata*, so common on the mainland, is rare on the island. *Platysamia curyalus* and other Saturnid moths which could easily be blown or carried to Catalina are missing even though the larval food plant is common. Neither of the Syntomid species, *Ctenucha brunnea* or *C. multifaria* are found though their food plant and ecological conditions are present. Both of the species are abundant on the shores of the mainland only eighteen miles away. Perhaps parasitism or adverse weather conditions have brought about the extermination of many species that have become established on the island. Such causes are much more apt to bring about extermination of species in an area as restricted in size as Catalina than on continental land masses where species are more widely distributed.

Unless the new form herein described proves to be so, none of the species listed in this paper are endemics.

A map of Santa Catalina Island, showing the general topographic features and the principal collecting localities accompanies this paper.

Family SPHINGIDAE

33. PHLEGETHONTIUS SEXTA Joh.

The most common Sphingid on Catalina Island. Taken every month in the year except December. Most abundant during spring and fall months. Larvae feed on several species of *Solanaceae* though they seem to prefer the island endemic, *Solanum wallacei* and the coyote tobacco, *Nicotiana glauca*.

The tremendous holding power of the prolegs of the larvae was demonstrated by recording the pull necessary to dislodge a specimen from a branch of giant nightshade. A full grown larva was placed on the underside of a stem, a spring balance attached to a small cup was hooked between the second and third pairs of prolegs, and water was poured into the cup until the weight was sufficient to pull free the larva. Four hundred and eleven grams (14.6 oz.) were necessary to dislodge the larva.

34. *PHILEGETHONTIUS QUINQUEMACULATA* Haw.

Only one specimen taken, a female, Avalon, XI-2-1932.

35. *SPHINX PERELEGANS* Hy. Edw.

Fairly common around Avalon during April and May. An occasional specimen was taken in October.

36. *SMERINTHUS CERISYI OPTHALMICUS* Bdv.

Common during March and April at Avalon and Middle Ranch. The pale form *saliceti* was never taken.

37. *CELERIO LINEATA* Fabr.

Rare on Catalina Island. Only a few records from Avalon in March, and one, a female, from Middle Ranch, IV-4-1933.

Family ARCTIIDAE

38. *CRAMBIDIA LITHOSIODES* Dyar

Taken in large numbers in light trap at Avalon in April, May, June, September, October and November. Food plant probably the filamentous lichen common on the scrub oak as the imagoes were frequently found in association with trees heavily infested with the so-called "oak moss."

39. *CISTHENE CONJUNCTA* B. & McD.

Frequent captures in light trap at Avalon during September and October.

40. *CISTHENE FAUSTINULA* Bdv.

Fairly common with *C. conjuncta*.

41. *CISTHENE DORSIMACULA* Dyar

One record, light trap, Avalon, IX-26-1932.

42. *HEMIHYALEA EDWARDSII* Pack.

Common in light trap and around store windows in Avalon during September and October. Slow on the wing and easy to

capture. A grating sound, caused by friction between the primary and secondary wings, was frequently noticed when specimens were captured by hand.

43. *HEMIHYALEA EDWARDSII* form *ochreous* form nov.

Like *H. edwardsii* in size and maculation, but with all red or reddish shades replaced by ochreous yellow or very pale orange. Abdomen dorsally ochreous yellow, slightly more yellow than thorax. (Abdomen bright orange red in *edwardsii*). Abdominal tuft yellow brown. Inner angle of secondaries yellow. Upper surface of primaries noticeably yellow in allotype. Antennae light brown (rusty brown in *edwardsii*). Upper surface of femur of forelegs very pale orange yellow (salmon red in *edwardsii*).

Two examples: Holotype and allotype.

Type locality: Avalon, Santa Catalina Island, California.

Holotype male, Avalon, October 1, 1929. Allotype, female, Avalon, April 14, 1934. Holotype in Los Angeles Museum; allotype in author's collection.

44. *APANTESIS PROXIMA* *AUTHOLEA* Bdv.

The most common Arctiid on the island. Specimens collected throughout the year. Most abundant in fall and spring, but never in great numbers at any one time. Food plants: all types of succulent grasses. Larvae sometimes of economic importance in gardens and on the golf course, but imagoes held in check by a high percent of parasitism, particularly the hymenopterous species *Ophion*.

45. *APANTESIS NEVADENSIS* *GENEURA* Stkr.

During the second week in April, 1928, I spent five days collecting in the vicinity of Emerald Bay at the north end of Catalina Island. Camp was established under a large eucalyptus tree some twenty yards from the water's edge. Every evening, about an hour before sunset, hundreds of thousands of black wooly Arctiid larvae would appear on the grass, shrubs and trees growing around the bay. A small percent of the caterpillars were feeding; the rest were aimlessly crawling about. All varieties of plant life were eaten by the larvae but the heaviest consumption of food was in a patch of wild clover some two acres in extent. At night the haphazard migration of larvae rustled the grass around camp like a gentle shower of rain. At daybreak the great movement of larvae had stopped, though their widespread activities were noticeable everywhere. Windrows of drowned specimens were along the beach where the larvae had been caught by the tides. Rocks, dead trees, bushes, cactus,

and even our camp gear was heavily infested. Caterpillars were found near the top of the eucalyptus tree, sixty feet from the ground. Every morning both sea and land birds appeared in numbers and feasted, especially along the water's edge. By nine o'clock each day the larvae were not so evident but thousands could be found by looking under the dense grass that covered the surrounding hills.

More than a thousand larvae were collected and taken back to Avalon. Practically all pupated within a few days, but less than 1 per cent emerged as imagoes. Two parasites were responsible, an ichneumonid fly, *Ophion*, and to a lesser extent, a tachinid fly. The pupal period extended over five months. Imagoes began to appear on August 15 and continued to emerge until October 2, 1928. The greatest number came out September 20. All were *Apantesis nevadensis geneura* Stkr.

During the rest of my stay on Catalina, until June, 1934, not a single specimen of *geneura* was seen, though the Emerald Bay country was visited many times. In 1929 the *Ophion* flies were extremely abundant on the island.

On June 21, 1938, Dr. T. D. A. Cockerell collected several *Arctiid* larvae at Wilson's Cove on San Clemente Island. They had pupated when they came into my possession, and on September 21, one imago, a female, emerged. It belonged to this same race.

46. ESTIGMENE ACREA Dru.

Only one specimen, a male, Avalon, March 6, 1930.

47. ARACHNIS PICTA Pack.

Abundant in light trap and around lights in Avalon during September, October and November. Occasional at Middle Ranch. Food plant, lupine.

